Government of
Saskatchewan

Annual Report
for the year ending
March 31, 1988

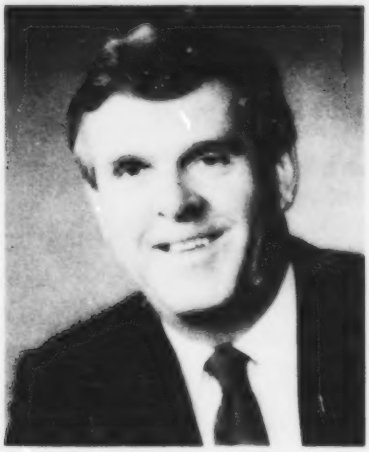
Saskatchewan
Science and
Technology

Contents

Letters of transmittal	3
Saskatchewan Science and Technology Mandate	5
The Challenge: Competing in a Changing World	6
The Response: Saskatchewan Committed to Action	7
The Mechanism: Supporting Science and Technology Development	8
Saskatchewan Science and Technology: Serving Saskatchewan	9
Industrial Development Division	10
Policy and Research Co-ordination Division	11
Communications Division	13
Administration Division	15
The Results: Saskatchewan Makes Its Mark	16
Future Directions: Working Together	18
Financial Review	19
Tables	20

Letters of transmittal

Minister's transmittal



Ray Meiklejohn
Minister

To Her Honour
The Honourable Sylvia O. Fedoruk, O.C., S.O.M.
Lieutenant-Governor of Saskatchewan
Government House
Regina, Saskatchewan

December 8, 1988

May It Please Your Honour:

The undersigned has the honour to submit the Annual Report of Saskatchewan Science and Technology for the fiscal year ending March 31, 1988.

Respectfully submitted,

Ray Meiklejohn

Ray Meiklejohn
Minister,
Saskatchewan Science and Technology

Saskatchewan
Science and
Technology

Deputy Minister's transmittal

Harley D. Olsen
Deputy Minister

To the Honourable Ray Meiklejohn
Minister of Science and Technology
Regina, Saskatchewan

December 8, 1988

Dear Mr. Meiklejohn:

I have the honour of submitting the Annual Report of Saskatchewan Science and Technology for the year ending March 31, 1988.

Respectfully submitted,

Harley D. Olsen
Deputy Minister

Saskatchewan Science and Technology Mandate

The Department is responsible for all matters relating to the promotion, development, application and co-ordination of science and technology in Saskatchewan.

In carrying out this mandate the Department works to:

1. Assist and support the establishment and growth of the advanced technology sector in Saskatchewan.

2. Encourage the application of science and technology for the development and diversification of the provincial economy.

3. Support efforts to develop a world-class research and development infrastructure necessary for the development of new products and services.

4. Direct federal and international science and technology related activities to Saskatchewan for the enhancement of the province's ability to compete in world-wide markets.

The Challenge: Competing in a Changing World

As the last decades of the twentieth century elapse, a powerful new international economic system is emerging. The old economy, characterized by competition between nations based on sale of natural resources and the industrial capacity to transform these resources into value-added products, is passing through a major transformation. Competitive advantage in the new knowledge-intensive economy is increasingly based on the products of research, science and technology. It is estimated that ninety percent of all the world's knowledge has been developed since World War II; knowledge itself has become a major resource.

In seeking to sustain and enhance its prosperity by participating in a growing volume of world trade, Saskatchewan faces the critical challenge of adapting its institutions, policies and practices to a radically new environment. World trade now occurs in a global economy in which the interweaving of science, engineering and technology has acquired the power to transform the comparative advantage and prosperity of nations and regions.

With the scale, scope and openness of the international enterprise of science, the transferability of technology and mobility of capital, science-based innovation has become the driving force for the technological and corporate change that creates new tradable goods and services and, hence, prosperity. A viable modern economy must have the ability to produce tradable goods and services which, in turn, produce the income that enables investment in vital services such as education, health care and other personal and social benefits. Without this income-generating ability in the marketplace, an economy faces the risk of declining standards of living.

As we near the end of this century, it is becoming increasingly obvious that our quality of life depends on science and technology. If we are to provide new jobs, solve environmental, health and safety problems, keep our resource industries competitive, create new products, and educate our children for the future, we must be players in the international field of science and technology.

The Response: Saskatchewan Committed to Action

The Saskatchewan government has recognized this world-wide challenge and taken action to meet it. In 1983 the Premier announced a science and technology strategy to promote economic and social development through the development, acquisition and utilization of world-class advanced technology.

On January 1, 1984 this strategy was operationalized with the establishment of Saskatchewan Science and Technology. The mandate of this Department is to assist the growth and diversification of the Saskatchewan economy through the development and application of science and technology. This mandate, in action, has become known as the "Saskatchewan Model for Advanced Technology Development" and has been used as a blueprint by other Canadian provinces.

The Model has two major thrusts:

(1) stimulating the development of a dynamic advanced technology industry in Saskatchewan; and

(2) facilitating the transfer of advanced technology products and processes to assist traditional industries in becoming more efficient and competitive.

Specifically, Saskatchewan Science and Technology works to:

- Stimulate the development of an industrially-based advanced technology sector by supporting each stage of the innovation cycle, from research activities through product design to market planning and commercialization.

- Assist with the diversification of the Saskatchewan economy through the development of new products and processes which can expand existing markets and establish new ones in Canada and abroad.

- Assist Saskatchewan small business to acquire new technologies in order to become more effective and efficient.

- Support efforts to develop a world-class Research and Development infrastructure in Saskatchewan in order to attract leading edge research capability and associated spinoff industrial opportunities.

- Support efforts to develop a more efficient and diverse resource sector through new product research and development.

- Co-ordinate the research, science and technology activities of industry, government, universities and public research institutions.

- Promote and co-operate in international, federal, and inter-provincial science and technology initiatives to develop new opportunities for Saskatchewan.

- Increase the public's awareness of the importance of science and technology for Saskatchewan's future economic and social well being.

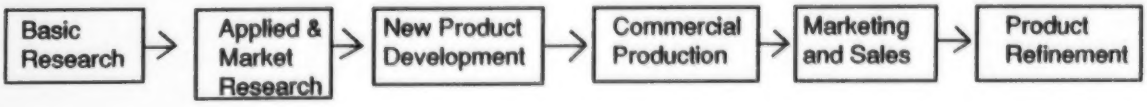
- Create an awareness of educational and employment opportunities in science and technology fields to ensure an adequate future source of trained scientists, technicians and entrepreneurs.

The Mechanism: Supporting Science and Technology Development

The innovation process has a number of inter-related components often referred to as the Innovation Chain (see Figure 1):

- basic research
- applied and market research
- new product development
- commercial production
- marketing and sales
- product refinement

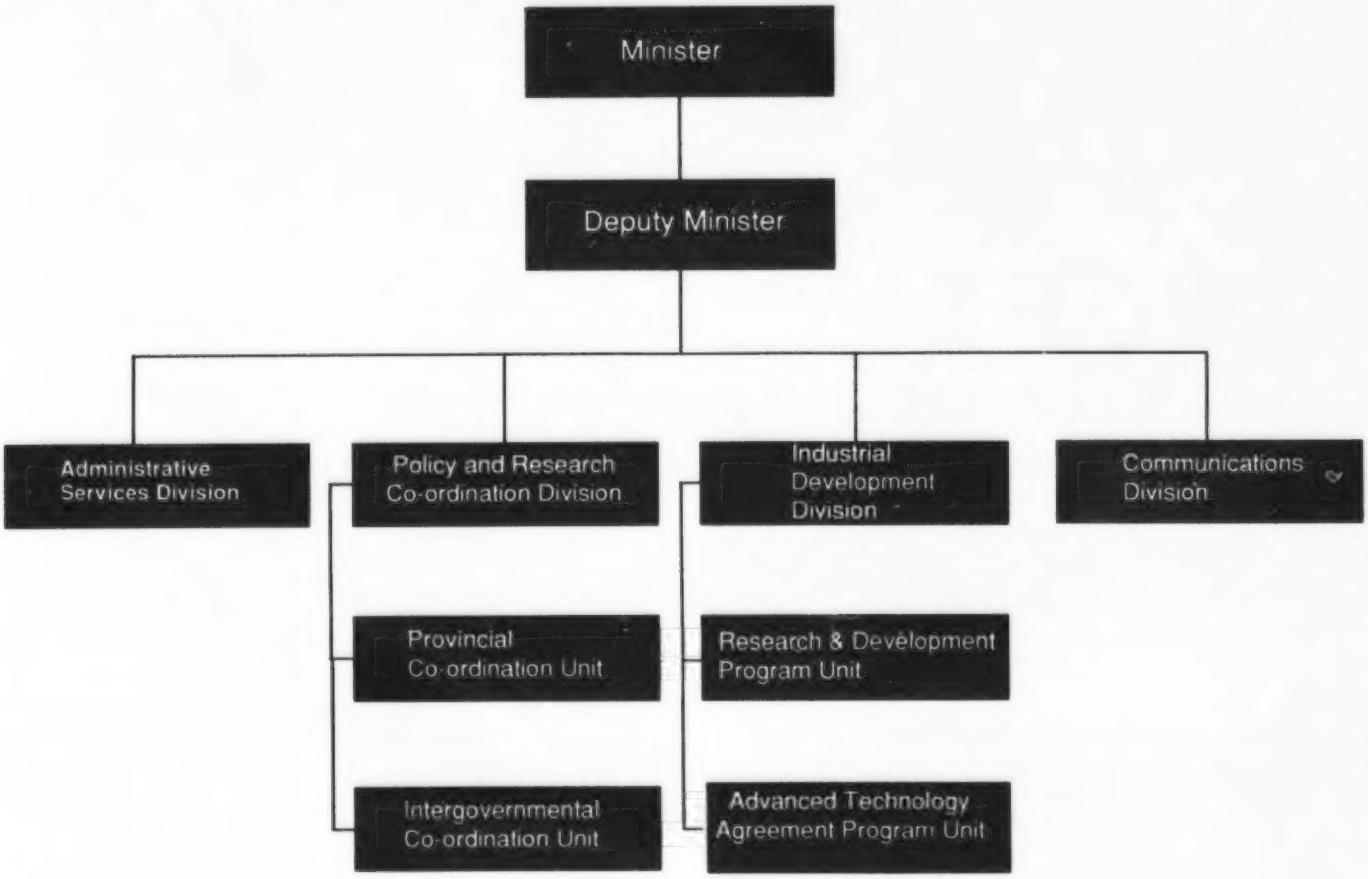
Figure 1 - The Innovation Chain



Making the right connections amongst these activities is the key to an integrated and dynamic innovation process. Saskatchewan Science and Technology facilitates this complex process through a close partnership with industry, universities, research institutions and other governments in order to ensure that Saskatchewan can compete in an increasingly sophisticated market place.

Saskatchewan Science and Technology: Serving Saskatchewan

Science and Technology Organization as of March 31, 1988



Industrial Development Division

Advanced Technology refers to products or processes which are at the leading edge of innovation. Simply put, advanced technology translates into "new solutions for old problems". Advanced technology activities in Saskatchewan range from biotechnology, communications, computer software and instrumentation to space equipment. These technologies are inherently knowledge-based and are advancing at an incredible pace. They are expected to be a major source of new employment and wealth creation throughout the next decade and the 21st Century. Saskatchewan industry is making impressive strides in many of these fields and positioning itself to participate in anticipated industrial development opportunities.

The Department's Industrial Development Division works directly with advanced technology companies providing support for all components of the innovation process. Support is available to innovators and entrepreneurs to assist them in developing and evaluating ideas, as is help in putting these ideas to work to roll out the technology. The division administers a number of financial assistance programs designed to share the risk with companies undertaking industrial research and development and commercializing the resulting leading edge products.

Research and Development Programs

Technology is increasingly the key determinant of industrial competitiveness. Companies working in advanced technology are under continual pressure to develop and introduce new or improved products. These companies must therefore invest a significant percentage of their earnings on research and development.

The Industrial Development Division shares the risk of innovation with Saskatchewan entrepreneurs via financial assistance made available under a seven part Research and Development Program. This fiscal year, assistance of $4,570,710 was authorized for 17 research and development projects conducted by 16 companies. (See Table 1).

Advanced Technology Agreement Programs

In addition to the requirement for on-going research and development, other factors critical to successful advanced technology business development include a supportive research infrastructure, adequate financing and sound marketing strategies. The assistance programs, delivered by the Industrial Development Division under the Canada-Saskatchewan Subsidiary Agreement on Advanced Technology are designed to respond to these special needs.

During this fiscal year, $243,807 in financial assistance was approved by the federal and provincial governments under this Agreement for a variety of projects. The provincial committment to these projects totalled $148,735. (See Table 2).

Industry Advisory Service

The staff in the division consult regularly with entrepreneurs and advanced technology firms, providing advice on business planning, funding sources and technology development. This counselling function helps technology innovators to develop technologically and commercially viable products and businesses, which, in turn, diversify the Saskatchewan economy and provide jobs in highly skilled and highly paid fields for Saskatchewan people.

Policy and Research Co-ordination Division

This division insures that the province receives maximum benefit from money spent on science, technology and innovation by the Saskatchewan, Canadian and international governments. In support of this function, the Division ensures the continued responsiveness of government policies and programs to the needs of the advanced technology industry and the innovation process in Saskatchewan. As well, the Division undertakes specific developmental initiatives in strategic areas of science and technology to assist the growth and diversification of the provincial economy.

Negotiating for Saskatchewan

The Division was active in a number of strategic initiatives with the federal government during 1987-88. The newly signed National Science and Technology Policy was implemented under the guidance of the Council of Science and Technology Ministers. The objective of this policy is to provide a framework for federal/provincial/territorial co-operation in bringing science and technology to bear on the economic, social, cultural and regional development of the nation. Specific areas of investigation included:

- research and development expenditure levels
- technology transfer
- technical, marketing and financial assistance
- strategic technologies for resource sectors
- basic research priorities
- social/cultural impact of science and technology
- regional development and science and technology

Specific initiatives emerging from this process and worked on with the federal government and other provinces, included the Canada Scholarships Programs, Centres of Excellence, the Science Culture Program and initiatives to encourage women in science and technology.

Investigation that had been initiated under the Canada/Saskatchewan Memorandum of Understanding was also advanced in two strategic areas: agricultural biotechnology and space development. In agricultural biotechnology, a federal/provincial committee developed recommendations for the establishment of an agricultural biotechnology institute to focus and co-ordinate funding for ag/bio research and development in Saskatchewan. This focus has two prime objectives: (1) to increase the viability of the agricultural industry by diversifying and reducing the cost of producing and processing crop and animal based products, and (2) the development of secondary agriculture-related manufacturing opportunities.

In the area of space development, the Division was involved in negotiating the establishment of regional targets for industry activity in the $3 billion Canadian Space Program. As part of this larger program, specific arrangements were also agreed to regarding specific research and development contracts for the Radarsat Program — Canada's first radar satellite. The Division also monitored, analysed, and co-ordinated provincial responses to federal policy initiatives such as the Free Trade Agreement, NSERC granting policy, R&D tax changes, biotechnology regulation development and the formation of the new Department of Industry, Science and Technology Canada.

Developing Science Skills of Youth

The Division continued to encourage Saskatchewan youth to pursue interests and careers in science and technology. The Science Fair Awards Program provided awards to regional school science fair winners for their innovation in applying classroom science skill to the development of practical and demonstrable concepts. These awards assisted winners to display their science projects at the National Science Fair. The Division also participated in regional career days to promote interest and opportunities for careers in science and technology. In addition, negotiations were opened with the Shad Valley Program regarding the establishment of a summer classroom/work program for grade XI and XII students in the world of science, technology and entrepreneurship.

Tracking Research Expenditures

The Division continued its program of gathering data on research and development efforts within the province by provincial departments and agencies. This information and analysis is used in conjunction with Treasury Board to eliminate duplication of research efforts and co-ordinate initiatives in a manner which is consistent with overall provincial priorities. In 1987-88 the government of Saskatchewan expended a total of $32 million on science and technology program support to industry, universities and research organizations.

Efforts also continued to encourage the federal government to increase expenditures on science and technology in Saskatchewan in order to more closely approach an amount which would reflect the province's share of total national population. These expenditures have increased from $55 million in 1982/83 to $81 million in 1986/87 but is still only about 2.2% of total federal expenditures on science and technology in Canada.

Stimulating University/Industry Collaboration

Through the Research and Development Fund, offices of university research were funded at both provincial universities. These offices continued to facilitate and promote university contract research, and to provide opportunities for technology transfer from university labs to the marketplace. These offices have given industry a window on research being done at the universities and also resulted in research becoming more directed to the needs of Saskatchewan industry.

Promoting Saskatchewan Science and Technology Internationally

The Policy and Research Co-ordination Division was also active in science and technology related consultations with countries such as the United States, Japan, Czechoslovakia, France, Sweden, the United Kingdom and China. Delegations and ambassadors from many of these countries were hosted, resulting in the exchange of information, industry contacts and identification of potential joint research and development projects. Direct contacts were also strengthened between the Division and Canada's science and technology counsellors posted abroad. These contacts helped to improve a world-wide information flow regarding Saskatchewan's advanced technology industry and research capabilities as well as identifying new technology sources throughout the world.

The Division also planned and co-ordinated a Minister's industry delegation to the Asia Pacific countries of Japan, China, Malaysia, Singapore and Hong Kong. During this mission a number of advanced technology industry opportunities were identified for further negotiation. In addition, the Third Plan of Action was negotiated with Jilin Province, China under the auspices of the Saskatchewan/Jilin Friendship Agreement. This Third Plan of Action identifies a number of activities to be carried out to promote joint research and economic trade opportunities between Saskatchewan and China during 1988-89 and 1989-90.

The Division also participated in the development and implementation of the National and Regional Conferences on Technology and Innovation in January 1988. These conferences brought together the heads of Canada's leading advanced technology industries, research organizations and agencies to identify the critical issues to be addressed in the shrinking global economy.

Communications Division

The Communications Division is an information clearing house between Saskatchewan Science and Technology and the many publics it serves. During the past year, special emphasis has been placed on raising public awareness of the science and technology sector and its potential to diversify the province's economy.

Supporting the work of other Divisions in strengthening growth in the advanced technology sector, the Communications Division continued to develop an integrated communication strategy, comprehensive programs, and appropriate tools.

The accomplishments of the advanced technology sector were publicized regularly through various means, including media releases, news conferences, audio visual presentations, and the Department's quarterly newsletter, "Frontiers".

Extensive use was made of the Technology Transfer Catalogue (second edition). Since its introduction in 1986, the Catalogue has raised the awareness and profile of Saskatchewan's advanced technology capabilities both nationally and internationally, and encouraged the visit of several foreign delegations for the purpose of exploring the province's technological inventories.

Work also began on the production of Saskatchewan's first Software Directory. Saskatchewan has earned a reputation as a dynamic centre for software development. It offers relatively low overhead costs, a high level of computer expertise, and a central location within the continent. Recognizing the need to create methods by which to promote this software expertise, a questionnaire was developed by the Department and targetted at Saskatchewan's software sector. The purpose of the survey was to examine the status of the rapidly emerging software industry in this province and to provide a current inventory of the capabilities, products and services of software developers, for use provincially, nationally and internationally. The Directory produced as a result of this research will be available in 1988.

The funding programs and support services of Saskatchewan Science and Technology were publicized through a variety of media. Print materials were distributed extensively, and advertisements were placed in provincial newspapers and magazines to encourage innovators and entrepreneurs to access the Department's programs. News conferences and ongoing media liaison proved to be effective in raising the profile of the Department and its activities throughout the province.

Reaching The Entrepreneurs of Tomorrow

Attempts were made to reach out to the young people of our province through two new initiatives:

A. Science and Technology Week

Science and Technology Week evolved as a means of addressing the need to raise public awareness of technological activities in Saskatchewan. In order to complement the government's economic diversification initiatives in the area of technology, people must feel comfortable with technology and feel that it is important to the province. Because 1988 was the first year for Science & Technology Week, the strategy developed addressed only a portion of the general public. Young school-age persons were chosen to target, as the decisions made by young people today will influence Saskatchewan's technological growth in the future. The majority of planning for Science and Technology Week took place during this fiscal year, while the event itself occurred in 1988-89. Events planned for Saskatchewan Science and Technology Week 1988 included the following:

- Writing Contest
- Winners' Showcase
- Innovation Place Tenant Fair
- Cornwall Centre Display
- School Tours
- Biotechnology Teaching Package
- Institute of Electrical and Electronics Engineers' Western Conference and Exhibition (WESTCANEX)
- Looking Toward The Future Seminar

B. A-STEP

The Communications Division of the Department of Science & Technology is included on the Executive Committee of A-Step, the Awareness of Science and Technology Education Program. The purpose of this group is to work with teachers in the field of science education in order to assist them in keeping in touch with current developments in the fields of science, especially those occurring locally. Science and Technology participation in this group is seen as important, as the goals of A-STEP - increasing scientific literacy - coincide with those of the Department in raising the profile of the science and technology sector, and its potential to diversify the province's economy.

Information Exchange

Because the flow of information is vital to serving the advanced technology sector, the Communications Division processes information on an ongoing basis. Mailing lists were maintained of provincial and national newspapers and magazines. These, along with other materials and reports received were monitored for information of interest and relevance to the Department and to the advanced technology industry in Saskatchewan. A database is maintained to reference articles of interest for easy retrieval.

The Communications Division responded to requests from industry and government for information and materials, and regularly disseminated technology-related information to an audience of researchers, innovators, investors, educators, public servants, ambassadors, and entrepreneurs around the world.

Industry Liaison

In order to keep abreast of industry needs, the Communications Division attempts to facilitate information exchange between government and the advanced technology community. Saskatchewan's growing technology sector is innovating in areas from breakthrough computer technology to leading edge biotechnology with global agricultural applications. The key to sustaining this cluster of advanced technology firms is a strong partnership among science, industry and government. The Department of Science and Technology maintained a close working relationship with the Saskatchewan Advanced Technology Management Association (SATMA), relying on their input for good communication and a clear enunciation of industry's needs.

Creating Awareness

In order to continue to raise the profile of science and technology world-wide, the Communications Division co-ordinated participation in various special events, including news conferences, audio-visual presentations, exhibitions, and trade and technology shows.

Administration Division

The Administrative Services Division manages the general administrative operation of the Department, and interacts extensively with the Department of Finance, the Saskatchewan Property Management Corporation, the Public Service Commission, and other central agencies.

Managing People, Paper, and Process

This fiscal year, the Division provided support services to the Department in areas such as human resource management, systems management, secretarial services , records management, mail room services, accounting and procurement. It assisted the Acting Deputy Minister and Directors in various projects and provided advisory services to the Divisions. Administrative Services was responsible for the preparation and control of Departmental budgets.

Planning began for the final step of the Department's relocation in Saskatoon to the East Wing of the SEDCO Centre. Administrative systems, human resources systems and electronic communications systems between offices, established in the previous fiscal year, were maintained.

The Results: Saskatchewan Makes its Mark

The success of the Saskatchewan Model for Advanced Technology Development is reflected in the results.

Partnership between Science, Industry, and Government

Since its formation, Saskatchewan Science and Technology has shared the risk with the advanced technology industry, and has acted as an advocate for the sector, levering federal support and funds.

- Financial support of over $10 million has been given to 218 projects through Saskatchewan Science and Technology since its inception.
- This $10 million investment has contributed towards projects with a value of over $60 million.
- Over $80 million federal dollars have been attracted to the province in 1986, and over $300 million since 1982 to provide scientific and technological services to the advanced technology industry.
- Saskatchewan industry as a whole is a leader in Canada in adapting new technology to their operations.

Diversifying Saskatchewan's Economic Base

Saskatchewan's advanced technology industry has mushroomed since 1982. Through new and established firms, the benefits of advanced technology are being felt throughout Saskatchewan industries by enhancing productivity and competitiveness, cutting costs, and improving safety in agriculture, mining, the oil industry, manufacturing, and service industries. Since 1982 the advanced technology sector has evolved and realized tangible results which help to diversify the provincial economy.

- Since 1982, the number of firms working in advanced technology has more than quadrupled, from 39 to 170.
- The average advanced technology firm in the province has 15 employees.

In 1982, virtually the entire industry was based in Saskatoon. Today, Saskatoon has 50 percent, Regina 30 percent, and the remaining 20 percent is widely distributed in other Saskatchewan communities.

- Saskatchewan's research and development infrastructure base includes over 30 agencies and organizations with industrially-oriented expertise and facilities with annual expenditures exceeding $157 million.
- Entrepreneurs and investors, along with private and public research agencies, universities, and a network of training institutions have created a dynamic advanced technology sector in Saskatchewan.

Increasing Sales and Creating new Jobs

Advanced technology is a multi-million dollar industry. Sales figures of Saskatchewan firms have increased dramatically. This financial success means quality jobs for the people of Saskatchewan. This sector is providing our young people with career opportunities equal to any in Canada. It gives our skilled university and technical school graduates highly paid jobs at the leading edge of technology.

- Sales figures for Saskatchewan's advanced technology firms were $81 million in 1982, and are now over $400 million.
- A large percentage of advanced technology products made in Saskatchewan are exported to other provinces in Canada, the United States and other international markets.
- Employment in the advanced technology industry has grown from 1,700 in 1982 to approximately 2,500 in 1987.

- Advanced technology firms are reaching into the province's two universities and four technical institute campuses for brainpower and technical know-how.

Earning Respect for Saskatchewan

Through the partnership of science, industry, and government, Saskatchewan's advanced technology industry is developing a world-wide reputation for innovation, excellence, and leadership.

- Saskatchewan has earned a top Canadian ranking for its communications and space technologies, and is in a position to attain national leadership in agricultural biotechnology, agricultural value-added products, and fibre optic network systems.

- Saskatchewan is positioned to expand into emerging areas of new technology such as health care products, software, drug research, artificial intelligence, aerospace, and biotechnology.

- Saskatchewan led Canada in developing a first ever National Science and Technology Policy.

- Saskatchewan has established itself in international research and technology sales through joint arrangements such as the Saskatchewan/Jilin Twinning Agreement.

- Saskatchewan youth are being readied for challenging careers in science and technology at both universities and newly formed Saskatchewan Institute of Applied Science and Technology.

Future Directions: Working Together

Saskatchewan's traditional resource base of economic strength is being eroded by world-wide structural changes. The World economy is in transition, with globalization of markets, a shift towards trade in knowledge intensive goods, and a sharp decline in commodity and resource prices due to increased world productivity and alternate products, both the result of applied technology.

Wealth and job creation, now and in the future, depend on growth of knowledge intensive industries and the application of new technologies to keep established industry competitive. An opportunity exists to benefit from this rapidly changing world economy. New industrial development offers new doors of opportunity for jobs and income creation. Saskatchewan must position itself to take advantage of these strategic growth areas.

The existence of a substantial opportunity base related to emerging advanced technology industries in Saskatchewan has been recognized for some time. The spin-out of companies from University-based research initiatives has, over a period of more than thirty years, provided this Province with a stimulus for new economic growth. The nature of the Saskatchewan environment and the pioneering spirit of its residents have required that new technologies and innovative practices be recognized as a part of everyday life. The economic circumstance facing the province's hard-pressed resource sectors required that increased effort be undertaken to achieve the advantages provided by the existence of this substantial opportunity base, related to emerging advanced technology industries in Saskatchewan.

An explosion of research dependent on advanced technology product and service innovation is driving economic growth. Consequently, the production of advanced technology goods and services is increasingly the source of new opportunity for economic well being. At the same time, the pace of technology diffusion around the world is accelerating, thus making sophistication in the application and use of technology the key to productivity enhancement and international competitive strength.

The international impact of these trends can easily be seen in patterns of trade. OECD figures indicate that the advanced technology share of world trade is growing at more than two times the rate of world trade in general. By 1995, advanced technology goods and services are projected to account for 25% of all international trade, up from 12% at the present time.

Advanced technology sectors such as biotechnology, communications, microelectronics, software, instrumentation and robotics are expected to realize the fastest rate of industrial growth during the 1990's. Saskatchewan Science and Technology will continue to work with industry, the research community and other governments to develop selective and effective programs to enable growth in research capability leading to industrial development and expansion. With an overall mandate relating to utilizing opportunities associated with emerging technologies to improve the economic circumstance and well-being of this province's residents, the Department of Science and Technology is committed to delivering programs and services in an effective and efficient manner, which are relevant to the changing circumstance of the government and of the sector.

Accordingly, the Department of Science and Technology will increase its activity to assist with the application of science and technology in order to:

a) create new jobs in research and development.
b) create new quality jobs in manufacturing and processing related to the production of technologically advanced goods and services.
c) diversify and strengthen the economy through the application of new technologies to traditional resource and secondary sectors.
d) exploit new and expanding international markets for advanced technology products.
e) develop an increased understanding of the importance of science, technology and innovation for Saskatchewan's future well being.
f) support efforts to increase the co-operative efforts between industry and universities in research and product development.
g) assist research and development to improve environmental protection and quality of life in Saskatchewan.

Financial Review

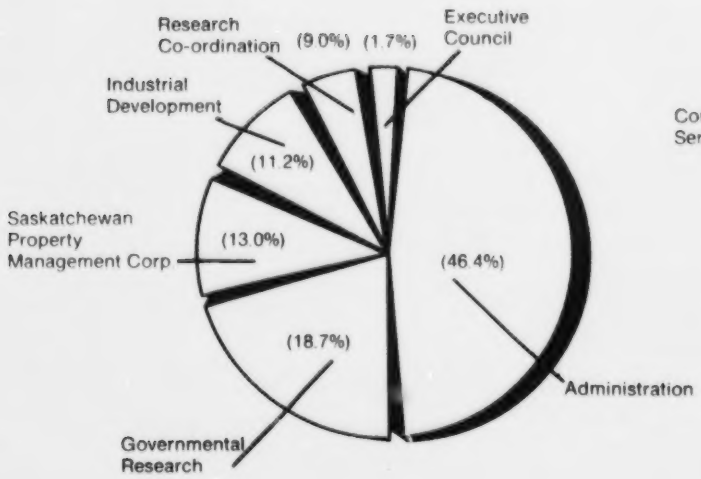
Statement of expenditures for the fiscal year ending March 31, 1988

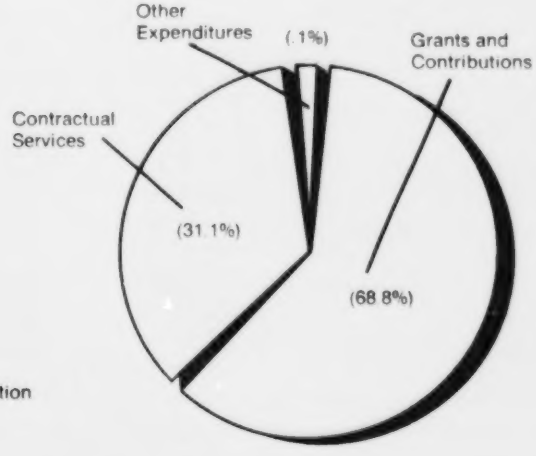
Consolidated Fund
Science and Technology

Administration	$ 797,226
Governmental Research	321,938
Industrial Development	192,741
Research Co-ordination	155,353
Payments to Saskatchewan Property Management Corp.	223,034
Members of the Executive Council	28,327
Total	$1,718,619

Saskatchewan Heritage Fund
Research and Development Division
and Consolidated Fund
Economic Diversification and Investment Fund

Contractual Services	$ 710,011
Grants and Contributions	1,567,756
Other Expenditures	2,690
Total	$2,280,457





Tables

Table 1

Research and Development
Grants and Contractual Services
April 1, 1987 - March 31, 1988

Firm	$
Agtron Enterprises Inc. Saskatoon Industrial Research	4,000
Avonlea Mineral Industries Ltd. Wilcox Industrial Research	6,900
Axon Development Corporation Saskatoon Industrial Research	2,600
Baby Guard Inc. Kindersley Industrial Research	9,025
Beline Manufacturing Co. Ltd. Kindersley Industrial Research	28,162
CAPA Software Corporation Saskatoon Industrial Research	7,500
Develcon Electronics Ltd. Saskatoon Industrial Research	3,530,500
Everest Technologies Ltd. Saskatoon Industrial Research	474,750
GEO-SLOPE Programming Ltd. Saskatoon Industrial Research	14,100
Innovative Research Inc. Regina Industrial Research	77,398
International Road Dynamics Inc. Saskatoon Industrial Research (2)	89,852
Philom Bios Inc. Saskatoon Industrial Research	60,445
P.O.S. Pilot Plant Corporation Saskatoon Research Infrastructure	250,000
Prairie Systems and Equipment Ltd. Saskatoon Industrial Research	2,666
SED Systems Inc. Saskatoon Request for Proposal	10,000
SENSTEK Ltd. Saskatoon Industrial Research	2,812
Total value of contracts signed during the fiscal year	***$4,570,710**
Total work done and paid out to firms	**$1,633,352.71**

*Includes projects extending to 1990-91

Table 2

Canada/Saskatchewan Subsidiary Agreement on Advanced Technology
Grants and Contributions
April 1, 1987 - March 31, 1988

Firm	$
Beck Technology Inc. Regina First User Risk Reduction	10,000
CAPA Software Corporation Saskatoon First User Risk Reduction	5,000
Fabtron Ltd. Saskatoon First User Risk Reduction	28,500
GEO-SLOPE Programming Ltd. Saskatoon First User Risk Reduction	4,420
International Road Dynamics Saskatoon First User Risk Reduction	8,000
Network Data Products Inc. Saskatoon Marketing Support	2,565
RAK Holdings Ltd. Saskatoon Development Analysis	26,550
SATMA Saskatoon Development Analysis	7,700
Saskatoon Board of Trade Saskatoon Development Analysis	22,500
Sci-Tec Instruments Inc. Saskatoon Marketing Support (2)	33,500
Total value of contracts signed during the fiscal year	**$148,735**
Total work done and paid out to firms	**$433,374.81**

Notes

Total value of contracts and payments indicated reflect only provincial commitments and payments (i.e. do not include federal commitments).

Payments include work done under contracts signed in the current fiscal year, as well as contracts signed in prior fiscal years.

Table 3

Other Program Expenditures
April 1, 1987 - March 31, 1988

Firm	$
Office of Research University of Regina	50,000.00
Office of Research University of Saskatchewan	100,000.00
Entrepreneur Program and Special Studies	63,729.95
Total	**$213,729.95**